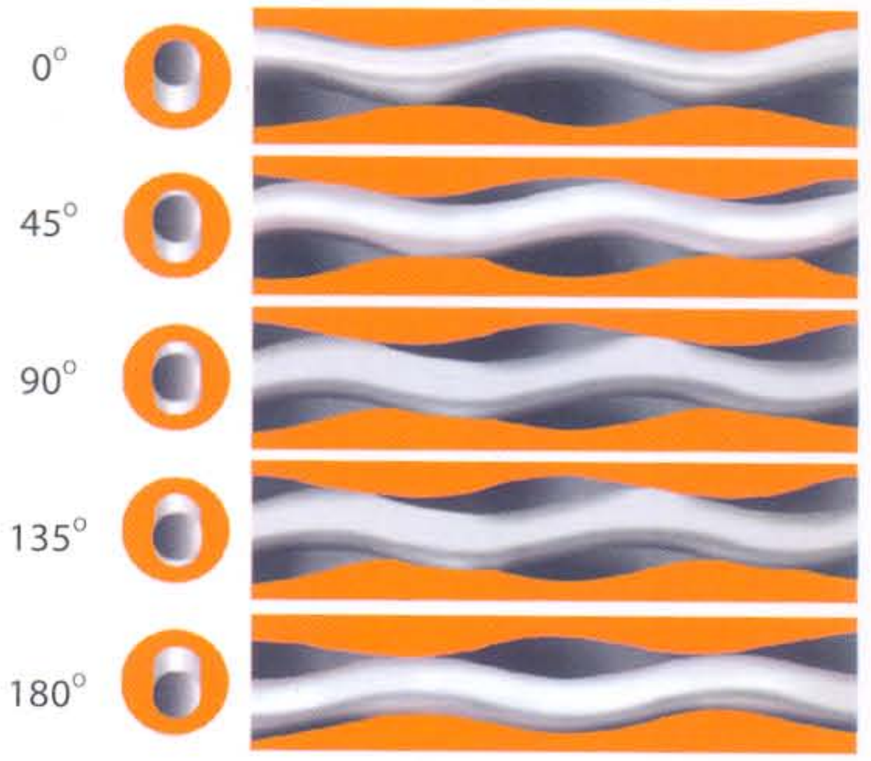
HYDRO PROKAV

Proven Performance for Better Pumping Solutions

HP PUMPS ®

Where... handling is an art



PROGRESSIVE CAVITY PUMPS

SPECIALIZATION & GEOMETRY

Hydro Prokav pumps, like all progressive cavity pumps, are a type of rotary, positive-displacement pump. The unique characteristic of the design is the special configuration of the two main pumping elements and their respective relationship within each shaft rotation.

THE FUNCTION

Because of the compression fit between the rotor and stator, and the combination of the helical forms, discrete cavities which are positively sealed are formed. The sealing lines defining the cavities will hold pressure even when the pump is not rotating. Since these cavities are completely sealed, positively isolating the suction and discharge conditions from each other, the pump is capable of high suction lifts and high pressures, Independent of its operating speed.

SALIENT FEATURES

- Lengthy Geometry
- Lengthy Pitch
- Lower Sliding Velocity
- Higher Capacity with lower rotor Dia & Eccentricity
- Increased service life
- Stability in pressure & flow due to longer sealing lines
- Reduced thrust loads on bearings & Universal joints
- Improved flow characteristics
- Reduced Vibration, Turbulence, Shear Rates & Pulsation
- Smooth and even performance
- Improved volumetric, Mechanical & Overall efficiency

KX-A Series Industrial and Chemical Screw Pumps

KX - B Series Industrial and Chemical Screw Pumps

KX - PK Series Industrial and Chemical Screw Pumps

KXCC Series Close Coupled Compact Pumps

KX - W Series Wide Throat Chemical and Hygeine Screw Pumps

KX - F Series Quick Clean Hygiene Screw Pumps

KX - A SERIES

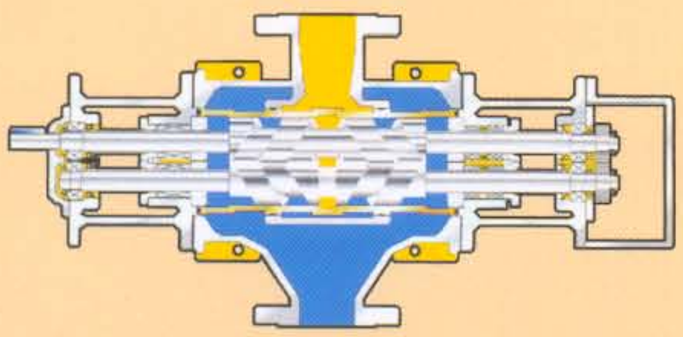
SIZE	21	31	38	45	53	63	76	90	105	125	148	180
CAPACITY in M^3/Hr	3.0	8.5	16	22	30	40	60	75	120	200	240	275
PRESSURE in Kg/cm^2	30	36	48	48	48	48	24	24	24	18	18	18
SPEED (RPM)	1400	1400	1400	1400	1000	1000	750	750	750	600	400	400

KX - B SERIES

SIZE	21	31	38	45	53	63	76	90	105	125	148	180
CAPACITY in M^3/Hr	5	13	30	42	60	70	120	160	240	300	480	550
PRESSURE in Kg/cm^2	6	6	6	6	6	6	6	6	6	6	6	6
SPEED (RPM)	1400	1400	1200	1200	1000	1000	750	750	750	600	400	400

Fluids Handled

Vegetable Oil • Mining • Steel • Rubber • Starch Construction • Man Made Fibres • Fisheries • Oil Exploration • Textiles Sewage • Effluent • Water Treatment • Sugar • Paper Pulp & Cellulose • Ceramics & Refractories • Explosives • Chemicals & Fertilizers • Soap & Detergents • Cosmetics & Toiletries • Paint & Varnish • Petrochemicals & Refineries • Dye Pharmaceuticals • Cattle Feed • Electronics • Brewery and Distillery • Agriculture • Distribution • Depots Power • Dairies • Winery • Food and Beverages • Abattoir and Meat Processing • Plantations • Fruit Processing



TWIN SCREW PUMPS

THE FUNCTION

The Working Principle of Hydro Prokav Dual Flow Twin Screw Pumps is dependent on the rotation of the Two Screw Spindles in the closed compartment. There is always a predefined Fine clearance exists between the outside diameter of the screw spindles and the Casing bore/ Liner in which the screw spindles are located. Each half of the screw spindles is left handed and right handed. Thus when the Spindles rotates, driven by the timing Helical Gears located at the end of the Screw. The Liquid is drawn towards the end of the Screw and entrapped between the Bore of the Pumping compartment as well as the flanks of the screws and is then propelled axially from both the ends towards the centre. Such a dual flow nullifies the axial thrust completely thereby enabling the screws to remain in a state of hydraulic balance resulting in High Volumetric Efficiency and Overall Efficiency.

SALIENT FEATURES

- Dry running capability
- Negligible wear over years
- Axial smooth steady flow
- High speed running
- Pulsation free output
- Negligible vibrations
- Intensive to varying viscosities
- Long maintenance free service
- Lowest NPSHR
- Interchangeable liner
- Adaptability of various MOC
- Shaft sealing at suction pressures
- Axial thrusts completely eliminated
- No metal to metal contact between rotors
- Positive clearance between rotors

FLUIDS HANDLED

- Jelly
- Fats
- Palm Oil
- Fuel Oil
- LSHS
- HPS
- RFO
- Crude Oil
- Vacuum Residue
- HSD
- Kerosene Oil
- Naptha
- Lubricating Oil
- Molasses
- Black Liquor
- Viscose
- Asphalt
- Wax
- Bitumen
- Mineral Oil
- Turbine Oil
- Hydraulic Oil
- LDO
- Polymeric Resins
- Lacquers
- Cosmetic Creams
- Detergents
- Soaps
- Glucose

TECHNICAL PARAMETERS

Capacity	:	1 - 500 M^3/Hr
Head	:	50 Kg/cm^2
Temperature	:	Up to 300°C
Viscosity	:	Up to 5,00,000 Centre Stoke

MOUNTING

A. Horizontal internal bearing pumps

B. Horizontal external bearing pumps

C. Jacketed pumps D. Vertical pumps

MATERIAL OF CONSTRUCTION

CASING	:	Cast Iron, Cast Steel, Cast Stainless Steel
LINER	:	Cast Iron, Cast Stainless Steel
SCREWS	:	Alloy Steel, Nitried Steel & Stainless Steel
TIMING GEARS	:	En 36 / En 24

(All the pumps shall be supplied with built in safety relief valve integral type)

TRIPLE SCREW PUMPS

THE FUNCTION

Hydro Prokav Three screw pumps employ just three screw elements – one power screw and two idler screws running in the three precision bores in the housing or liner. The screws are so profiled that they form a liquid tight seal between the thread. As the screws rotate, pocket/cavities are formed where liquid gets trapped and conveyed from one end of the screws to the other end – similar to the action of the piston pump with infinite stroke. Thus results in a smooth, pulsation free flow with extremely low noise and vibration levels, almost impossible to be achieved by any other design of Positive displacement or other types.

The power rotor does not drive the idlers as commonly believed. The hydraulic forces acting on the screw flanks turns the idlers torquelessly thus reduce the friction. Thus idler simply roll over the root diameter of main screws and float freely in casing/ liner bores. Large surface areas on idlers dia. reduce the unit pressure, centralize the power rotor and absorb the redial loads. A balance piston integrally machined on power rotor takes care of axial thrusts.

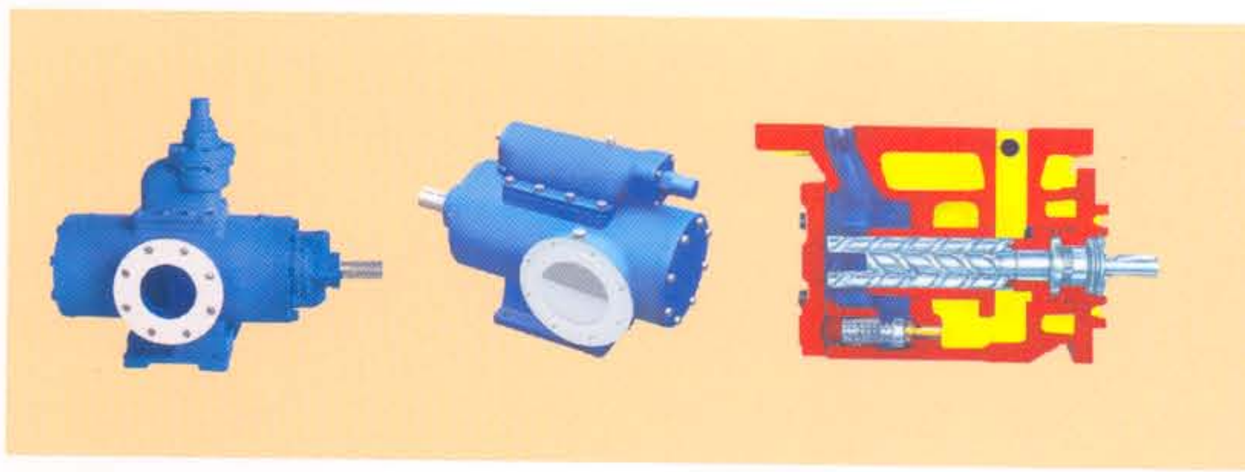
SALIENT FEATURES

- High reliability
- Long Service Life
- Negligible Maintenance
- High efficiency
- Self Priming
- Smooth Pulsation Free Flow
- Low Noise and Vibration
- High Speed Capability
- Insensitive to viscosities
- High Pressure Capability
- Axial flow – No churning, Chewing or shearing
- Excellent suction capability
- Hydraulic balancing of forces eliminates need for any bearings
- Fast, Easy replacement of Parts
- Mounting configurations to fit any spaces limitation :- Horizontal, Vertical, Close – Coupled, Sump
- In – Line Construction enables simplified piping arrangement.
- ANSI or DIN flanges

While in operation, the screws are in hydrodynamics balance on film lubrication and do not require any additional bearings. The one ball bearing often used is only for axial positioning of rotor and safer operation of mechanical seals. Small rotor dimensions enable the pump to be operated at high speeds directly coupled 3000 or 3600 RPM motors or other prime movers. Such unique design and features had demonstrated excellent reliability with pumps in operation continuously non – stop for decades together with out replacement of any components or maintenance on clean fluids.

Lubrication Duty : Pressure Lubrication and cooling of bearings for Turbo machinery, Gear boxes, Bearing Lubrication of Coal Mills, ID/FD Fans, Diesel Engines, Steel Rolling Mills, Air pre-heater guide bearings, Compressors.

Seal of Service : Hydrogen cooled Generators, Gas and Refrigeration Compressors.



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USER INDUSTRIES

- Cement Industry
- Power Stations
- Petro Chemical Refineries
- Oil Depots
- Ship Building Industry
- Rayon, Staple Fibres
- Steel Industries
- Fertilizer Industries
- Paper Mills
- Food Processing Industries
- Breweries

TECHNICAL PARAMETERS

Capacity	: from 1 to 400 M^3/Hr
Pressure	: up to 64 Kg/cm^2
Viscosity	: 1 – 1,00,000 Centre stoke
Temperature	: up to 300°C

THE PROKAV'S REAL EXPERTISE

Hydro Prokav Pumps India Pvt. Ltd is part of BKG Group of Industries who have a proven track record in the field of Engineering with large customer base through out India for the past two decades based at Industrial City of Coimbatore in South India. Our group is engaged in manufacture of various process machineries like Filter Presses, Classifiers, Cyclones and other special purpose Machines needed for various Industries like Chemical, Pharma, Fertilizer, Ceramics, Sugar, Food Processing, Paper, Effulent, Textile etc.

As a part of its diversification programme, we started manufacturing the complete range of Positive Displacement pumps such as Progressive Cavity Pumps, Twin Screw Pumps, Triple Screw Pumps, Internal Gear Pumps and Rotary Lobe Pumps.

INTERNATIONAL QUALITY

Equipped with Stringent quality control techniques with modern high precision measuring instruments & sophisticated testing facility with vast experienced Professional Engineering Team are the symbols of HYDRO PROKAV's commitment to its high quality products and our Factories are certified for the conformance to the ISO 9001 quality surveillance systems.

APPLICATION INDUSTRIES

HP PUMPS®

NQA ISO 9001 REGISTERED COMPANY · UKAS QUALITY MANAGEMENT 015 · ANSI-RAB QMS ACCREDITED

HYDRO PROKAV PUMPS (INDIA) PVT. LTD.®,

(**BKG** Group Company)

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